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Alan P. Kozikowski

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EXAMINER

DESAI, RITA J

ART UNIT

PAPER NUMBER

1625

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/614,498	<b>Applicant(s)</b> KOZIKOWSKI ET AL.	
	<b>Examiner</b> Rita J. Desai	<b>Art Unit</b> 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8,32,41,50,51,60-62,64,73-81 and 90-93 is/are pending in the application.
- 4a) Of the above claim(s) 41,50,51,60-62,64 and 73-81,90-91 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-8,92 and 93 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/1/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

Claims pending 1-8, 32, 41, 50,51, 60-62,64,73-81, 90-93.

Claims withdrawn, 41, 50, 51, 60-62, 64, 73-81, 90,91.

Claims under examination are 1-8, 32, 92 and 93.

Response to the arguments.

In response to the arguments for the 103 rejection over Richon et al and Watkins et al has been maintained in part on some claims. Applicants argue that the examiner has not made a prima facie case. This argument is not accurate. The examiner has shown the closest art and has also stated that the difference is only that of m being a zero instead of 1 ( as in the instant application.) The use is the same.

In the absence of a showing of unexpected results just changing the linker by one CH<sub>2</sub> is considered prima facie obvious.

Applicant are just arguing that it is not prima facie obvious without showing any evidence why this change produces unexpected results.

While homology is considered to be present, even if true “homology” is not present, such does not defeat the prima facie case of obviousness raised by the art. In *reDruey et al* 50 CCPA 1538, 319 F. 2d 237, 138 USPQ 39 wherein Judge Worley, delivering the Courts’s opinion stated:

“We need not decide here whether the compounds in question are properly labeled homologues. It appears to us from the authorities cited by the solicitor and appellants that the term homologue is used by chemists at times in a broad sense, and at other times in a narrow or strict sense. The name used to designate the relationship between the

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related compound is not necessarily controlling; it is the closeness of that relationship which is indicative of the obviousness or unobviousness of the new compound.” 50 CCPA 1541.

Also as the Court stated in *In re Payne et al.*, 606 F. 2d 302, 203 USPQ 245 at 255 (CCPA 1979):

“ the name used to designate the relationship between related compounds is not necessarily controlling; it is the closeness of that relationship which is indicative of the obviousness or unobviousness of the new composition.”

In addition , any question of why would one conceive and use the similar compounds (i.e. motivation’) is answered by the Court I *In re Gyurik et al.*, 596 F 2d 1012, 201 USPQ 552 at 557.

“ In obviousness rejections based on close similarities in chemical structure, the necessary motivation to make the claimed compound, and thus the prima facie case of obviousness, rises from the expectation that compounds similar in structure will have similar properties.”

The rejection still stands on claims 1-5 and 32.

The rejection over claims 6-8 and (new claims 92 and 93) is withdrawn.

The rejection under 35 USC 112 first paragraph for enablement of heterocycle still stands.

Even though applicants are not required to disclose each and every species in the pharmaceutical art which is very unpredictable applicants should provide more.

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The examiner finds it even more unconvincing as the applicants argue that a modification of a CH<sub>2</sub> linkage is not obvious, whereas any heterocyclic group for R<sub>1</sub> would have the same activity. Applicants compounds are drawn to treating cancer which is a highly unpredictable treatment.

#### For treating cancer

Those of skill in the art recognize that in-vitro assays and or cell-cultured based assays are generally useful to observe basic physiological and cellular phenomenon such as screening the effects of potential drugs. However, clinical correlations are generally lacking. The greatly increased complexity of the in vivo environment as compared to the very narrowly defined and controlled conditions of an in-vitro assays does not permit a single extrapolation of in vitro assays to human diagnostic efficacy with any reasonable degree of predictability. In vitro assays cannot easily assess cell-cell interactions that may be important in a particular pathological state. Furthermore it is well known that in the art that cultured cells over a period of time, lose phenotypic characteristics associated with their normal counterpart cell type. Freshney (Culture of Animal Cells, A Manual of Basic Technique, Alan R. Liss, Inc., 1983, New York, p4) teach that it is recognized in the art that there are many differences between cultured cells and their counterparts in vivo. These differences stem from the dissociation of cells from a three dimensional geometry and their propagation on a two-dimensional substrate. Specific cell interactions characteristic of histology of the tissue are lost. The culture environment lacks the input of the nervous and endocrine systems involved in homeostatic regulation in vivo. Without this control, cellular metabolism may be more constant in vitro but may not be truly representative of the tissue from which the cells were derived. This has often led to tissue culture being regarded in a rather skeptical light (p. 4, see Major Differences In Vitro). Further, although drawn specifically to cancer cells, Dermer (Bio/Technology, 1994, 12:320) teaches that, "Petri dish cancer" is a poor representation of malignancy, with characteristics profoundly different from the human disease. Further, Dermer teaches that when a normal or malignant body cell adapts to immortal life in culture, it takes an evolutionary type that enables the new line to thrive in its artificial environment. This step transforms a cell from one that is stable and differentiated to one that is not. Yet normal or malignant cells in vivo are not like that. The reference states that evidence of the contradictions between life on the bottom of a lab dish and in the body has been in the scientific literature for more than 30 yrs. Clearly it is well known in the art that cells in culture exhibit characteristics different from those in vivo and cannot duplicate the complex conditions of the in vivo environment involved in host-tumor and cell-cell interactions.

Further making the compounds

*Ex parte DIAMOND*, 123 USPQ 167 (Bd. Pat. App. & Int. 1959) where the examiner was affirmed for a scope of enablement rejection, and the court stated:

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Scope of claims should not be unduly extensive in chemical fields where applicability is highly speculative or not explored; subject matter which relies upon prediction for its support is unpatentable.

Specification contains 23 specific examples, but they are to preparation of relatively simple compounds; this is relatively meager and non representative disclosure to support claims embracing millions of compounds.

Applicant may not preempt unduly large field by expedient of making broad prophetic statements in specification and claims unless accuracy of such statements is sufficiently supported by well established chemical principles or by sufficient number of examples.

“The term ‘substituted’ without modification or restriction includes all compounds wherein one or more of the atoms or radicals of the original compound have been replaced by one or more other atoms or radicals. Without any limitation on the character or number of substituents it becomes apparent that the quoted term may be considered inclusive of almost any possible substance and the claims under consideration are either of unlimited or indeterminate scope. We are of the opinion that the reasoning of the courts in *Schering Corp. v. Gilbert*, 68 USPQ 84, and *Hercules Powder Co. v. Rohm & Haas*, 70 USPQ 297, is controlling.”

embrace millions of compounds. It should also be observed that appellant is working in a field where little prediction is possible and this Board has on several occasions held that the scope of claims should not be unduly extensive in fields where applicability is highly speculative or not explored and that subject matter which relies upon prediction for its support is unpatentable. *Ex parte Middleton*, 87 USPQ 57; *Ex parte Kauck et al.*, 95 USPQ 197, *Ex parte Rosenkranz et al.*, Pat. No. 2,715,637.

In *Minnesota Mining and Mfg. Co. et al. v. Carborundum Co. et al.*, 155 F.2d 746, 69 USPQ 288, the court held that “An inventor cannot disclose a small number of components which will serve as a springboard for claiming an entire class.”

In addition see *In re Fouche* 169 USPQ 429

“Inclusion of representative examples is not required to enable a person skilled in the art to use a generic invention; nevertheless, applicant must use some technique of providing teaching of how to use which is commensurate with breadth of protection sought by claim, unless such knowledge is already available to persons skilled in the art; thus, where applicant undertakes to define invention by recitation of a Markush group, he must enable one skilled in the art to make and use at least one composition employing each member of group.

Both the examiner and the board noted that none of the working examples pertained to compounds wherein Z was heterocyclic. Appellant is quite correct in contending that, under our decisions in *In re Robins*, 57 CCPA 1321, 429 F.2d 452, 166 USPQ 552 (1970), the inclusion of representative examples is not required to enable a person skilled in the art to use a generic invention. Nevertheless, an applicant must use *some* technique of providing teaching of how to use which is commensurate with the breadth of protection sought by the claim, unless such knowledge is already available to persons skilled in the art.

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It seems clear, and it is not disputed by appellant, that where an applicant undertakes to define his invention by the recitation of a Markush group, he must enable one skilled in the art to make and use at least one composition employing each member of the Markush group. The examiner and the board did not believe that appellant had done so as to the heterocyclic members of the group. While they noted the absence of examples using heterocyclic moieties, we do not find that they viewed examples as mandatory. The issue before us is whether appellant has provided *any* teaching of how to use compounds containing the heterocyclic members of the Markush group. The only reference to heterocyclic radicals in the specification is the statement that “the invention provides” compounds of the structure shown in claim 1, wherein Z may be, among other possibilities, a mononuclear, nitrogen-containing heterocycle connected to the chain A by the nitrogen atom, and optionally containing an oxygen, sulphur, or second nitrogen atom in the ring and optionally substituted by one of more alkyl radicals containing 1 to 5 carbon atoms each, such as 1-pyrrolidyl, piperidino, morpholino, 1-piperazinyl, or 4-alkyl-1-piperazinyl. “

Also applicants claims recite 3-10 membered heterocycles which may be substituted or not with some specific groups. There is some examples of heterocycles provided , however none of the compounds are made and there is not activity shown for them too.

The markush group of phenyl cycloalkyl , heterocycles are all of a different class. Applicants have failed to show a reduction to practice commensurate to the scope of the claims.

The rejection still stands on claims 1,3,4 and 32.

The previous rejections are repeated here.

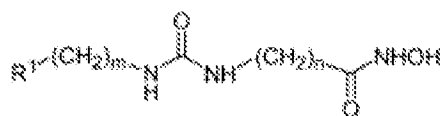
### ***Claim Rejections - 35 USC § 103***

The rejection of the claims 1-8 and 32 over Richon et al 1998 , and Watkins WO 0226696 , 2002 still stands.

Applicants argue that the examiner has not made a prima facie case. This is incorrect.

Applicants compounds are given by the following on page 14. m is 1 or 2.

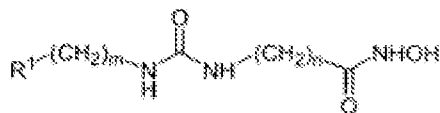
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Compound No.	R <sup>1</sup>	m	n
1	Phenyl	2	3
2	4-N(CH <sub>3</sub> ) <sub>2</sub> -Phenyl	1	3
3	4-N(CH <sub>3</sub> ) <sub>2</sub> -Phenyl	1	4
4	4-N(CH <sub>3</sub> ) <sub>2</sub> -Phenyl	1	5
5	4-N(CH <sub>3</sub> ) <sub>2</sub> -Phenyl	1	6
6	4-N(CH <sub>3</sub> ) <sub>2</sub> -Phenyl	1	7

and pharmaceutically acceptable salts thereof.

On page 16 applicants disclose

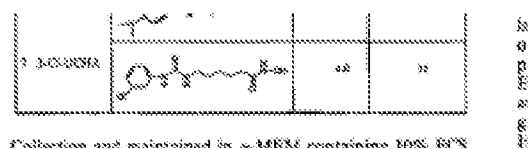


Compound No.	R <sup>1</sup>	m	n
7	4-N(CH <sub>3</sub> ) <sub>2</sub> -Phenyl	0	6
8	Adamantyl	0	5

wherein m is a zero.

Richon et al teaches the compound

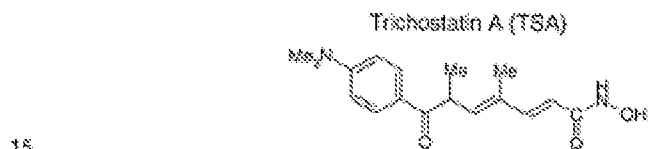




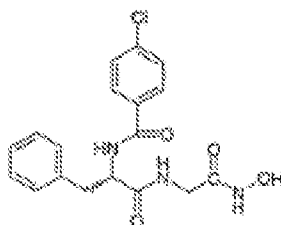
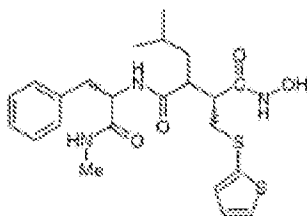
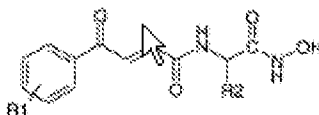
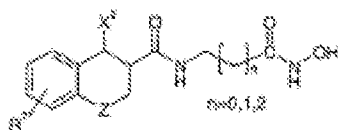
This compound differs in that  $m$  is 0 .

The use of these compounds is the same .

The Watkin WO 0226696 reference teaches



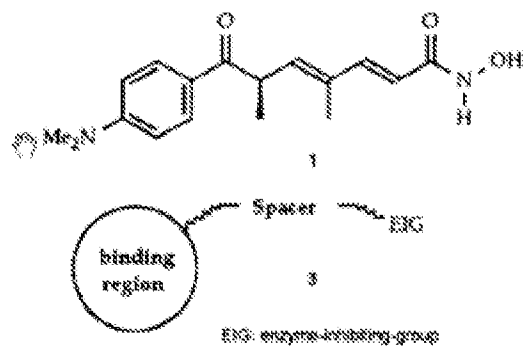
Suberoylanilide Hydroxamic Acid (SAHA)



Watkin refers to the Richon

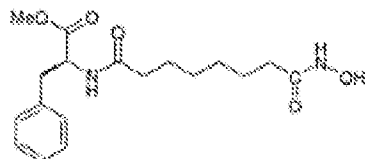
and Jung et al 1997, 1999.

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M. Jung et al .

Jung et al., 1997, 1999, describe several aromatic hydroxamic acid compounds which apparently inhibit HDAC. Some of the compounds have a phenylamide group (PhCONH-). One compound, a peptide analog, is shown below (see, e.g., compound 6 in Jung et al., 1997; compound 4 in Jung et al., 1999).



( applicants

specifications page 10.)

Jung et al teaches that there is a binding region and an enzyme inhibiting group is seperated by a spacer.

A variety of spacers are disclosed.

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Thus the prior art teaches that the link of the phenyl ring can be attached to the N of the urea or to a carbon atom and it would still retain its properties.

This would motivate a person of skill in the art to modify the compounds to  $m = 1 - 4$  (lower alkyl) and still expect to maintain the properties. In other words knowledge of the prior art compounds would have motivated one of skill in the art to modify the chain from  $m = 0$  to  $m = 1$  to 4, CH<sub>2</sub> linkage to obtain the compound of the instant invention.

Thus the 103 rejection has been maintained

The rejection of claims 1-8 and 32 under 35 USC 112 first paragraph also still stands.

The rejection is on how to make and how to use the claimed invention.

See Methot et al , 2008 , page 2, which teaches that all structures do not have the same activity.

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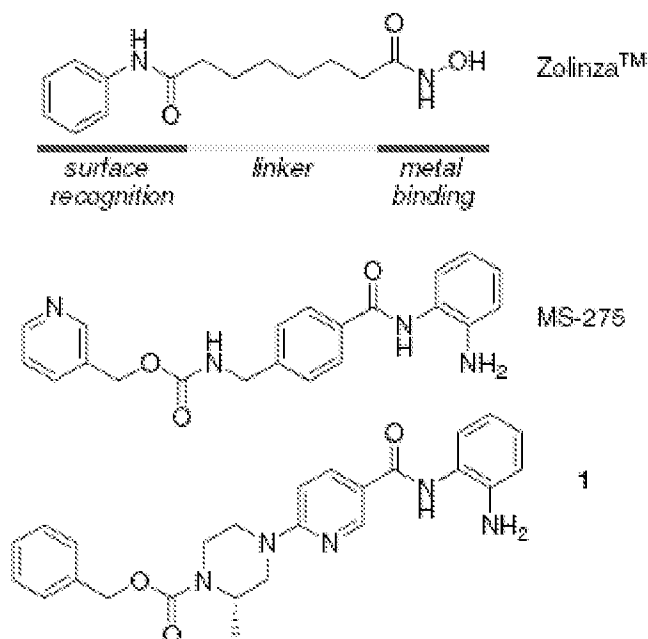


Figure 1. HDAC inhibitors Zolinza™, MS-275, and piperazyl benzamide 1.

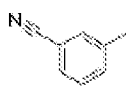
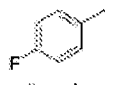
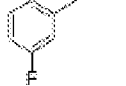
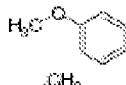
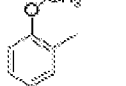
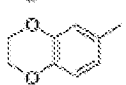
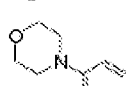
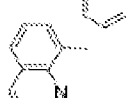
inhibitors containing a hydroxamic acid moiety in the zinc-binding motif, Zolinza™ (SAHA, vorinostat) is a broad-spectrum HDAC inhibitor. Another class of HDAC inhibitors contains an  $\alpha$ -aminobenzamide zinc-binding motif as exemplified by MS-275<sup>6</sup> (SNDX-275) and nicotinyl piperazine 1.<sup>7</sup> As is typically observed for benzamide-derived inhibitors, compound 1 inhibits HDACs 1–3 but does not significantly inhibit the other HDAC isoforms screened. Though the histone deacetylase family is well documented in the development of cancer, the role of the individual HDACs remains unclear. HDACs 1 and 2 share a high degree of homology and are found in the same multicomponent nuclear complexes containing transcriptional co-repressors such as mSin3 and NuRD.<sup>8</sup> They both have been shown to be overexpressed in human cancers and knockdown leads to increased apoptosis.<sup>9</sup>

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Also see Siliphaivanh 2007, page 4621

Encouraged by the activity of benzamide **5a**, our attention was directed toward the synthesis of analogues with diverse substitution around the phenyl ring in the surface recognition domain. Representative analogues (Table 1) demonstrate that a wide array of functionality can be tolerated in the malonyl-phenyl rings including nitrile, methoxy, and morpholine moieties. A reduction in cellular potency can be seen in biaryl **5i**, possibly due to its low hydrophilicity. The *clog P<sub>23</sub>* of **5i** is greater than that of the phenyl amide **5a** by two log units. Notably, ortho-substitution of the malonyl-phenyl rings was tolerated in contrast to ortho-substitution of the phenyl ring within vorinostat, which leads to a marked decrease in activity.

Moreover, both amide NH moieties were essential for significant enzymatic and cellular potency (Table 2). Incorporation of a single methyl group on the malonyl sidechains to give **5j** resulted in a 5-fold loss of potency. Similarly, the dimethyl derivative **5k** was 100-fold less potent indicating that hydrogen bonding, either inter- or intra-molecular, may play an important role in the recognition of the HDAC active site. Similarly, it was shown that malonyl di-ester analogues possessed significant reduction in HDAC enzymatic activity as well (data not shown).

<b>5b</b>		34	593 <sup>a</sup>
<b>5c</b>		63	222 <sup>a</sup>
<b>5d</b>		56	607
<b>5e</b>		35	383
<b>5f</b>		47	394
<b>5g</b>		21	220
<b>5h</b>		45	542
<b>5i</b>		103	1200

The quinoline substituted compound had a lower potency.

Thus the substitution and the with the activity is very unpredictable.

The state of the art is unpredictable. The only compounds made by the applicants are the ones wherein R1 is a phenyl.

Even though the claim recites 3-10 heterocyclic and cycloalkyls which can be still further substituted.

Thus when the art is so unpredictable the applicants should provide more guidance with the examples commensurate to the scope of the claims.

So in view of the above the arguments presented by the applicants are not convincing.

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The examiner has provided sufficient evidence , regarding the unpredictability of this pharmaceutical art.

Hence the rejection still stands.

The previous rejections are repeated here for convenience.

*The arguments do not overcome the rejection of claim 1-8 and 32 under 35 USC 112 rejection under first paragraph .*

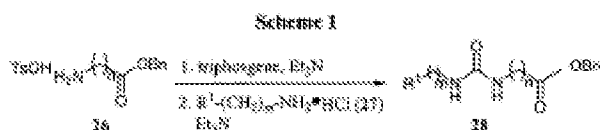
*Applicants claims with the option wherein R1 can be any 3 to 10 membered heterocyclic group itself covers numerous groups from pyridyl, piperazine , thienyl, furan, quinoline, and so on and so on. Then the aryl groups could be many other options. One skilled in the art would understand that a pyridyl has different electro negativity and properties than a thienyl or a piperazine. The example given by the examiner of theophylline versus caffeine. Is still valid. Caffeine even though structurally so similar (H Vs a methyl group) is not marketed as a bronchodilator. Quinolines are generally used as a bactericide. A heterocyclic group or a cycloalkyl group would definitely be different than a phenyl or an adamantyl and as such should have more showing that it is a "pharmaceutical".*

*The rejection of claims 1-8 and 32 under 35 USC 112 first paragraph still stands.*

*Applicants argue that*

*The synthetic Scheme 1 (page 31 of the instant Application; reproduced in pertinent part below), wherein the Applicants provide a straightforward synthetic approach to the desired urea compounds of the invention via reaction (in step 2) of a primary amine with an electrophilic isocyanate intermediate (formed in step 1).*

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*This is not convincing because the rejection is based on 2 parts, make and use. The use of these compounds in pharmaceutical uses is highly unpredictable and as such the applicants should have enable them.*

*Applicants argue that on pages 70-85 in table 3 and 4 applicants have provided a lot of data to demonstrate inhibition.*

*This may be so, however all the compounds shown have either a phenyl or an admantyl, and this does not cover the scope of applicants generic claims of the aryl cycloalkyl or 3 to 10 membered hetero cycle.*

*Thus the rejection still stands.*

*The rejection of claims 1-8 and 32 still stands.*

*Solely on the Richon et al reference the compounds are homologs with a difference of one -CH<sub>2</sub>- group.*

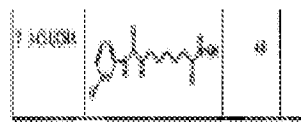
*Applicants argument that this is an oversimplification is not correct.*

*If the compound 7 of the Richon reference is compare to the compounds, it reads on the compounds when, R<sup>1</sup> is a phenyl m is 0, and n is 5.*

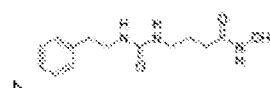
*Thus the difference is only of m being more 1.*

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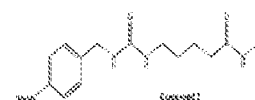
Richons compounds is



Applicants compound is

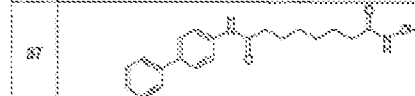
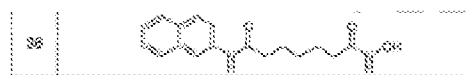
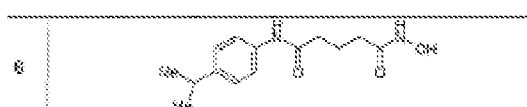
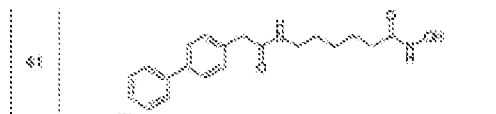
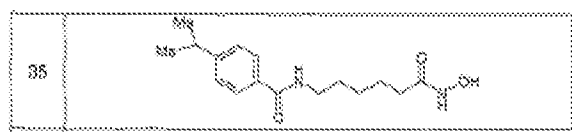


or



Similar compounds in WO 0226696 Watkins et al are also taught.

The WO patent teaches the compounds



Clearly the equivalency of the linkage to the N or the Ch2 for the R1 is equivalent.

The compounds have a similar activity i.e. are HDAC inhibitors. And with the teaching of the equivalence of the linkages, there is a motivation to modify them to obtain the compounds of the invention.



### ***Claim Rejections - 35 USC § 112***

*The following is a quotation of the first paragraph of 35 U.S.C. 112:*

*The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.*

*Claims 1-8 and 32 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for R1 to be a phenyl and adamantly, does not reasonably provide enablement for any other cylcoalkyl or any 3-10 membered heterocyclic group. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.*

*In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).*

*There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". These factors include 1) the breadth of the claims, 2) the nature of the invention, 3) the state of the prior art, 4) the level of one of ordinary skill, 5) the level of predictability in the art, 6) the amount of direction provided by the inventor, 7) the existence of working examples, and 8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).*

***1) The breadth of the claims:*** *The instant claims encompass many compounds from an aromatic carbocyclic moiety to an aromatic carbocyclic moiety having many large electron withdrawing and bulky groups substituted on it to a moiety having many heterocyclic rings. These compounds cover a very wide range of compounds.*

***2) The nature of the invention:*** *The invention is a hydroxyamido compound that is useful to treating cancer.*

***3) The state of the prior art:*** *The state of the prior art is that the drugs and the enzymes react in a lock and key mechanism and the structure of the compound has to be specific. Even a difference of a methyl group versus a hydrogen changes the properties altogether. A good example is a theophylline versus caffeine. They differ by just a methyl group but one of them has a pharmaceutical use as a bronchodilator. There is no absolute predictability and no*

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*established correlation between the different substitutions on a core that they would all behave in the exact same way. Applicants R1 is drawn to hetero ring and cycloalkyl and also aryls. Hetero ring due to the presence of other atoms such as N, S and O have different electronegativity and hence bonding and properties. Thus they would not behave in the same way as an aryl. Also there is very little known in the treatment of cancer and the state of the prior art is that it involves screening in vitro and invivo to determine which compounds exhibit the desired pharmacological activities. There is no absolute predictability and no established correlation between in vitro activity and the treatment of any and all cancers, as the in vitro data is not a reliable predictor of success even in view of the seemingly high level of skill in the art. The existence of these obstacles establishes that the contemporary knowledge in the art would prevent one of ordinary skill in the art from accepting any therapeutic regimen on its face.*

**4) The level of one of ordinary skill:** *The ordinary artisan is highly skilled.*

**5) The level of predictability in the art:** *It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. In re Fisher, 427 F. 2d 833, 166 USPQ 18(CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. The level of unpredictability in the art is very high. The compounds which differ by a methyl group also show different properties, for e.g. theophylline and caffeine. One of them is a bronchodilator and they differ only by a methyl group.*

**6) The amount of direction provided by the inventor:** *The inventor provides very little direction in the instant specification. There are no examples with the R being hetero cyclic groups and also there is no data provided to show that these compounds do indeed treat cancer or even have any histone deacetylase activity.*

**7) The existence of working examples:** *The instant specification does not have any working examples nor any invitro or invivo data that they do have any activity.*

**8) The quantity of experimentation needed to make or use the invention based on the content of the disclosure:** *Since there are no working examples, the amount of experimentation is very high and burdensome.*

*Taking the above eight factors into consideration, it is not seen where the instant specification enables the ordinary artisan to make and/or use the instantly claimed invention.*

*Genetech Inc Vs Nova Nordisk 42 USPQ 2d 1001.*

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*“A patent is not a hunting license. It is not a reward for search but compensation for its successful conclusion and patent protection is granted in return for an enabling disclosure of an invention , not for vague intimations of general ideas that may or may not be workable.”*

**Conclusion**

Claims 1-8, 32, 92 and 93 are in the elected group.

Claims withdrawn, 41, 50, 51, 60-62, 64, 73-81, 90,91.

Claims 1-5 and 32 stand rejected.

Claims 6-8, 92 and 93 may be allowable.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita J. Desai whose telephone number is 571-272-0684. The examiner can normally be reached on Monday - Friday, flex time..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rita J. Desai/  
Primary Examiner, Art Unit 1625

R.D.  
October 21, 2008